

**WHAT IS CLAIMED IS:**

1. A cartridge assembly for a fluid delivery system, the cartridge assembly comprising:
  - 5           a. a first plurality of interconnected cartridges, each of said interconnected cartridges comprising a reservoir for holding a jetting fluid, wherein each reservoir is operatively coupled to an ink jet print head;
  - b. a first interconnection assembly for interconnecting the first plurality of interconnected cartridges and for maintaining said first plurality of  
10           interconnected cartridges at a negative pressure; and
  - c. a second interconnection assembly for maintaining at least an essentially equal level of the jetting fluid within each of the reservoirs when jetting fluid is being held therein.
- 15       2. The cartridge assembly of claim 1, wherein the first interconnection assembly comprises a first plurality of conduits operatively connecting together at least two reservoirs of said first plurality of interconnected cartridges.
3. The cartridge assembly of claim 1, wherein the first plurality of interconnected  
20       cartridges comprises at least four cartridges.
4. The cartridge assembly of claim 3, wherein the first plurality of interconnected cartridges comprises at least eight cartridges.
- 25       5. The cartridge assembly of claim 1, comprising a sensing assembly operatively coupled to the reservoir of a selected one of the first plurality of interconnected

cartridges, for monitoring a level of jetting fluid in the reservoir of the selected cartridge.

- 5           6. The cartridge assembly of claim 5, wherein the reservoir of the selected cartridge comprises an aperture for permitting replenishment of jetting fluid to the reservoir from a remote source, wherein the second interconnection assembly allows for the distribution of jetting fluid among the reservoirs of the first plurality of interconnected cartridges so as to maintain the at least essentially equal level of jetting fluid within the first plurality of interconnected cartridges.
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7. The cartridge assembly of claim 6, wherein said second interconnection assembly comprises a second plurality of conduits operatively connecting together at least two of the reservoirs of the first plurality of interconnected cartridges.
- 15           8. The cartridge assembly of claim 1, wherein the reservoirs of said first plurality of cartridges comprise an assembly for coupling the reservoir to its associated ink jet print head.
9. The cartridge assembly of claim 8, wherein each of the reservoirs and its  
20           associated ink jet print head are operatively connected by channels in the assembly to allow jetting fluid to interface between the reservoir and its associated print head.
10. The cartridge assembly of claim 6, wherein the aperture for permitting  
25           replenishment of the jetting fluid extends into the reservoir of the selected

cartridge, whereby jetting fluid is introduced into the reservoir below the level of jetting fluid in the reservoir.

11. The cartridge assembly of claim 1, further comprising:

- 5           a. a second plurality of interconnected cartridges, each of said second plurality of interconnected cartridges comprising a reservoir for holding a jetting fluid, wherein each reservoir is operatively coupled to an ink jet print head;
- 10           b. a third interconnection assembly for interconnecting the second plurality of cartridges and for maintaining the second plurality of cartridges at a negative pressure; and
- c. a fourth interconnection assembly for maintaining at least essentially equal levels of jetting fluid within each of the reservoirs when jetting fluid is being held therein.

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12. A fluid delivery system comprising a plurality of intercoupled cartridge assemblies, wherein each intercoupled cartridge assembly contains a different jetting fluid and wherein each intercoupled ink cartridge assembly comprises:

- 20           a. a plurality of interconnected cartridges, each of said interconnected cartridges comprising a reservoir for holding a jetting fluid, wherein each reservoir is operatively coupled to an ink jet print head;
- b. a first interconnection assembly for interconnecting the plurality of interconnected cartridges and for maintaining said plurality of interconnected cartridges at a negative pressure; and

- c. a second interconnection assembly for maintaining at least an essentially equal level of the jetting fluid within each of the reservoirs of the plurality of interconnected cartridges when jetting fluid is being held therein.

5        13. The fluid delivery system of claim 12, comprising a sensing assembly operatively coupled to the reservoir of a selected one of the first plurality of interconnected cartridges, for monitoring a level of jetting fluid in the reservoir of the selected cartridge.

10       14. The fluid delivery system of claim 13, wherein the reservoir of the selected cartridge comprises an aperture for permitting replenishment of jetting fluid to the reservoir from a remote source, wherein the second interconnection assembly allows for the distribution of jetting fluid among the reservoirs of the first plurality of interconnected cartridges so as to maintain the at least essentially equal level of  
15       jetting fluid within the plurality of interconnected cartridges.

15. The fluid delivery system of claim 13, wherein the sensing assembly measures the level of jetting fluid in the reservoir of the selected cartridge.

20       16. The fluid delivery system of claim 12, wherein each cartridge assembly comprises at least four interconnected cartridges.

17. The fluid delivery system of claim 16, wherein each cartridge assembly comprises at least eight interconnected cartridges.

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